LVII.—*Notes on African Ungulates.*

By Ernst Schwarz.

I.—The Classification of the Duikers.

In the 'Book of Antelopes' all the Duikers were included in one genus, *Cephalophus*. Since then, however, the number of "species" has been enormously increased, and several subdivisions have been proposed. In 1899 O. Neumann * pointed out that the steppe forms should be placed in a separate genus, *Sylvicapra*, Ogilby, their horns being more erect than in the other species, and the females usually lacking them. Pocock † has revived Gray's genus *Guevei* for the small species *maxwelli* and *melanorrheus*, which have no inguinal glands. Finally, in 1907, Dr. Knottnerus-Meyer ‡ has divided the genus, which he gives family rank, into two subfamilies with ten genera, most of which are very heterogeneous. A recent revision of the genus shows that four genera (*Sylvicapra*, *Cephalophus*, *Guevei*, and *Cephalophula*) should be recognized. Of these, *Sylvicapra* appears to be most closely allied to the *Cephalophus natalensis* group, and *Cephalophula* is certainly nearly related to *Cephalophus dorsalis*, as Thomas § has shown; the presence of heel-tufts, the broad nasal chamber, the sagittal ridge, small preorbital fossæ in the skull, and the transverse body-stripes would, however, indicate that the separation of this form is justified. The remaining forms can be arranged in ten species, of which *ogilbyi* is the western representative of *callipygus* and *niger* of *spadix*. The relations of the other species amongst each other are not quite clear at present, but it has been thought advisable to publish the following list for the time being. A general revision of the local forms of most of the species pending, I have placed in each group all the names referable to it, which should be regarded as subspecies or synonyms of the species in question.

I. Sylvicapra, Ogilby.

	Type.
Sylvicapra, Ogilby, P. Z. S. 1836, p. 138	*S. grimmia.*
Cephalophorus, Gray, List Mamm. B. M. p. 162 (1843)	*S. grimmia.*

One species.

* Sb. nat. Fr. p. 19 (1899).
† P. Z. S. 1910, ii. pp. 867–876.
‡ Arch. f. Naturg. lxxiii. vol. i. pp. 42–48 (1907).
§ P. Z. S. 1892, p. 425.

Sylvicapra grimmia, L.

Including :—
Abyssinica, altifrons, altivallis, burchelli, caffra, campbelliæ, cana, coronata, deserti, flavescens, grimmia, hindei, irrorata, leucoprosopa, madoqua, meryens, nictitans, nyansæ, ocularis, pallidior, platous, platyotis, ptoox, roosevelti, shirensis, splendidula.

II. Guevei, Gray.

	Type.
Guevei, Gray, Cat. Ung. B. M. p. 80 (1853)	*G. maxwelli.*

Two species.

1. *Guevei maxwelli*, H. Smith.

Including :—
Frederici, maxwelli, philantomba, pygmæus, whitfieldi.

2. *Guevei cærulus*, H. Smith.

Including :—
Æquatorialis, æquinoctialis, anchietæ, bukeri, bicolor, cærulus, caffer, congicus, defriesi, hecki, lugens, melanorrheus, minutus, monticola *, *musculoides, nyasæ, perpusillus, schultzei, sundevalli.*

III. Cephalophus, H. Smith.

	Type.
Cephalophus, H. Smith, Griff. An. K. v. p. 344 (1827).	*C. silvicultrix.*
Cephalolophus, Wagner et auct. (emend.)	*C. silvicultrix.*
Grimmia, Laurillard, Dict. Univ. d'H. N. i. p. 623 (1839)	*C. rufilatus.*
Philantomba, Blyth, Cuvier's An. Kingd. p. 140 (1840).	†
Terpone, Gray, P. Z. S. 1871, p. 592	*C. silvicultrix.*
Potamotragus, Gray, Cat. Rum. B. M. p. 24 (1872) ..	*C. silvicultrix.*
Cephalophia, Knottnerus-Meyer, Arch. f. Naturg. lxxiii. vol. i. p. 44 (1907)	‡
Cephalophilium, Knottnerus-Meyer, *l. c.* p. 45 (1907).	*C. niger.*
Cephalophella, Knottnerus-Meyer, *l. c.* p. 45 (1907) ..	*C. callipygus.*
Cephalophops, Knottnerus-Meyer, *l. c.* p. 46 (1907) ..	*C. dorsalis.*

Ten species.

* *Monticola*, auct., nec Thunberg.

† No species given as type; contains a great number of species, including *silvicultrix, mergens, philantomba*—therefore identical with the unrestricted *Cephalophus.*

‡ No species given as type; contains *ogilbyi* and *leucogaster.*

1. *Cephalophus natalensis*, A. Smith.

Including :—
Amœnus, *aureus*, *bradshawi*, *claudi*, *harveyi*, *natalensis*, *nigrifrons*, *robertsi*, *rubidus*, *vassei*, *walkeri* *.

2. *Cephalophus rufilatus*, Gray.

Including :—
Cuvieri, *rubidior*, *rufilatus*.

3. *Cephalophus leucogaster*, Gray.

4. *Cephalophus niger*, Gray.

Including :—
Niger, *pluto*.

5. *Cephalophus spadix*, True.

6. *Cephalophus silvicultrix*, Afzelius.

Including :—
Coxi, *ituriensis*, *longiceps*, *melanoprymnus*, *punctulatus*, *ruficrista*, *sclateri*, *silvicultrix*, *thomasi*.

7. *Cephalophus jentinki*, Thomas.

8. *Cephalophus ogilbyi*, Waterhouse.

Including :—
Brookei, *ogilbyi*.

9. *Cephalophus callipygus*, Peters.

Including :—
Callipygus, *centralis*, *ignifer*, *johnstoni*, *leopoldi*, *weynsi*.

10. *Cephalophus dorsalis*, Gray.

Including :—
Badius, *breviceps*, *castaneus*, *dorsalis*, *leucochilus*, *orientalis*.

IV. Cephalophula, Knottnerus-Meyer. Type.

Cephalophula, Knottnerus-Meyer, Arch. f. Naturg. lxxiii. vol. i. p. 46 ..... *C. doria*.

One species.

* I am almost certain that *walkeri* is a subspecies of *natalensis*; it may be distinct from or merely a melanistic variety of the form called *bradshawi* by Mr. Wroughton.

Cephalophula doria, Ogilby.

Including :—
Doria, zebra.

In addition to the above forms, a species called *Cephalophus emini* has been described by Prof. Noack. The hairs, for samples of which I am indebted to Prof. Noack, are much thicker than in any species of this group, and most like those of *Ourebia*. It is, of course, quite impossible to give a definite opinion with regard to the status of this species without examination of the actual specimen.

II.—A new Buffalo from the New Kamerun Boundary.

Bubalus caffer houyi, subsp. n.

Type locality. Pelle, near Gore, Eastern Logone River, New Kamerun Frontier.

Type. ♂ adult. Senckenberg Museum ; original no. 65.

Allied to *B. c. brachyceros* from Lake Chad, but smaller, with much less expanded horns, the tips of which are much less erected.

Colour above variable, from reddish brown to deep black (in the type) ; under surface and throat brownish red to reddish brown.

Skull smaller than in *B. c. brachyceros*, face narrower, orbits slightly projecting ; frontal scarcely convex at base of horns.

Horns : horn-cores slightly depending, less so than in *B. c. brachyceros*, but in strong contrast to the horizontal ones of *B. c. adamauæ* ; palm only slightly depending, with scarcely any boss at base, but with traces of transverse ridges, becoming narrower laterally ; tip very long, stouter than in *brachyceros*, but less erected, although much more so than in *adamauæ*, bent inward and slightly backward at the extreme end.

Specimens examined. Four skins, fourteen skulls, from the following localities between Gore, Upper Logone River, and Bate, River Uham, New Kamerun Boundary :—Gore ; Pelle ; River Nana Barya, between Bosum and Bate ; Bate.

Dimensions of type skull. Basal length 426 mm. ; palatal length 260 ; postorbital width 219 ; mastoid width 240 ; nasals 193 × 64 ; horns, length along outer curve 750,

greatest width 730, distance of tips 390, breadth of palm at base 188.

Named for Dr. R. Houy, Surgeon and Naturalist to the German Boundary Expedition, whose untimely death by the hand of his native servant we have to deplore.

P.S.—When describing *Bubalus caffer adamauæ* the dimensions of the type skull were omitted by mistake. They are given here:—

Basal length 411 mm.; palatal length 250; postorbital width 205; mastoid width 213; nasals 177 × 63; horns, length along outer curve 550, greatest width 525, distance of tips 280, breadth of palm at base 155.

LVIII.—*Some Dragonflies and their Prey.*

By Herbert Campion.

It is a well-known fact that Odonata, in all their stages, are highly predaceous creatures, and are veritable tyrants in the insect-world. Prey is seized by the nymphs with the extraordinary modification of the labium called the "mask." It is customary for imagines, with which we shall deal exclusively on the present occasion, to take their prey during flight, and it may be assumed that they capture the smaller insects upon which they feed with the aid alone of their powerful jaws. Larger prey, no doubt, is caught and held by the Dragonfly's spiny legs, the length and position of which are such as to enable their possessor to bring all of them simultaneously to the level of the mouth.

The capacity for destruction possessed by Dragonflies is enormous, and "Beutenmüller found that one of the large ones would eat forty house-flies inside of two hours, while a smaller one ate twenty-five in the same time" (Dr. L. O. Howard, 'The Insect Book,' 1902, p. 365). On the other hand, their power of resisting famine is considerable, and during dull weather, when they fly very rarely, if at all, they probably pass several days in succession without obtaining any food whatever. In those countries, therefore, where the sun shines without intermission for long periods at a time, the activity of Dragonflies must be much greater than in cloudy climates, and the consumption of other insects must increase in a corresponding degree.

The principal source of our knowledge of what Dragonflies